

ABSTRACT OF THE INVENTION

The present invention relates to a medium for preparing dedifferentiated cells derived from post-natal islets of Langerhans. The medium comprises in a physiologically acceptable culture medium an effective amount of a solid matrix environment for a three-dimensional culture, a soluble matrix protein, and a first and a second factor for developing, maintaining and expanding the dedifferentiated cells. Such a medium may be used in an *in vitro* method for islet cell expansion. The present invention also relates to a medium for inducing islet neogenesis from duct-like structure, which comprises in a physiologically acceptable culture medium an effective amount of at least one islet neogenesis inducer compound.